

1 **WHAT IS CLAIMED IS:**

2 1. A method of treating a subject having a *Helicobacter* infection,
3 comprising administering an antibacterially effective amount of a composition
4 to said subject, said composition comprising a glucosinolate, an
5 isothiocyanate or a derivative thereof.

6 2. The method of claim 1, wherein said isothiocyanate is
7 sulforaphane, sulforaphene, erysolin, erucin, iberin, alyssin, berteroin,
8 iberverin, cheirolin, 5-methylsulfinylpentyl isothiocyanate, 6-
9 methylsulfinylhexyl isothiocyanate, 7-methylsulfinylheptyl isothiocyanate, 8-
10 methylsulfinyloctyl isothiocyanate, 9-methylsulfinylnonyl isothiocyanate, 10-
11 methylsulfinyldecyl isothiocyanate, phenylethyl isothiocyanate, 4-(α -L-
12 rhamnopyranosyloxy)benzyl isothiocyanate, 3-(α -L-
13 rhamnopyranosyloxy)benzyl isothiocyanate, 2-(α -L-
14 rhamnopyranosyloxy)benzyl isothiocyanate, 4-(4'-O-acetyl- α -L-
15 rhamnopyranosyloxy)benzyl isothiocyanate or a derivative thereof.

16 3. The method of claim 2, wherein said isothiocyanate is
17 sulforaphane.

18 4. The method of claim 1, wherein said composition is a food,
19 food supplement, a dietary supplement or food additive.

20 5. The method of claim 4, wherein said composition comprises a
21 glucosinolate or a derivative thereof.

22 6. The method of claim 1, wherein said composition is a
23 pharmaceutical composition.

1 7. The method of claim 6, wherein said pharmaceutical
2 composition is administered orally.

3 8. The method of claim 1, wherein said subject having a
4 *Helicobacter* infection is suffering from an ulcer.

5 9. The method of claim 1, wherein said subject is suffering from,
6 or at risk for developing stomach cancer.

7 10. The method of claim 1, wherein said *Helicobacter* is
8 *Helicobacter pylori*.

9 11. The method of claim 1, further comprising administering an
10 antibiotic to said subject.

11 12. The method of claim 11, wherein said antibiotic is selected from
12 the group consisting of amoxycillin and clarithromycin.

13 13. A method of preventing a *Helicobacter* infection in a subject,
14 comprising treating said subject with an antibacterially effective amount of a
15 composition, said composition comprising a glucosinolate, an isothiocyanate
16 or a derivative thereof.

17 14. The method of claim 13, wherein said isothiocyanate is
18 sulforaphane, sulforaphene, erysolin, erucin, iberin, alyssin, berteroin,
19 iberverin, cheirolin, 5-methylsulfinylpentyl isothiocyanate, 6-
20 methylsulfinylhexyl isothiocyanate, 7-methylsulfinylheptyl isothiocyanate, 8-
21 methylsulfinyloctyl isothiocyanate, 9-methylsulfinylnonyl isothiocyanate, 10-
22 methylsulfinyldecyl isothiocyanate, phenylethyl isothiocyanate, 4-(α -L-
23 rhamnopyranosyloxy)benzyl isothiocyanate, 3-(α -L-
24 rhamnopyranosyloxy)benzyl isothiocyanate, 2-(α -L-

1 rhamnopyranosyloxy)benzyl isothiocyanate, 4-(4'-O-acetyl- α -L-
2 rhamnopyranosyloxy)benzyl isothiocyanate or a derivative thereof.

3 15. The method of claim 14, wherein said isothiocyanate is
4 sulforaphane.

5 16. The method of claim 13, wherein said *Helicobacter* is
6 *Helicobacter pylori*.

7 17. The method of claim 13, wherein said composition is a food,
8 food supplement, dietary supplement or a food additive.

9 18. The method of claim 17, wherein wherein said composition
10 comprises a glucosinolate or a derivative thereof.

11 19. The method of claim 13, wherein said composition is a
12 pharmaceutical composition.

13 20. The method of claim 19, wherein said pharmaceutical
14 composition is administered orally.

15 21. A method for inhibiting the growth of *Helicobacter*, comprising
16 administering to said *Helicobacter* an antibacterially effective amount of an
17 agent selected from the group consisting of a glucosinolate, an
18 isothiocyanate or a derivative thereof.

19 22. The method of claim 21, wherein said isothiocyanate is
20 sulforaphane, sulforaphene, erysolin, erucin, iberin, alyssin, berteroin,
21 iberverin, cheirolin, 5-methylsulfinylpentyl isothiocyanate, 6-
22 methylsulfinylhexyl isothiocyanate, 7-methylsulfinylheptyl isothiocyanate, 8-
23 methylsulfinyloctyl isothiocyanate, 9-methylsulfinylnonyl isothiocyanate, 10-
24 methylsulfinyldecyl isothiocyanate, phenylethyl isothiocyanate, 4-(α -L-
25 rhamnopyranosyloxy)benzyl isothiocyanate, 3-(α -L-
26 rhamnopyranosyloxy)benzyl isothiocyanate, 2-(α -L-

1 rhamnopyranosyloxy)benzyl isothiocyanate, 4-(4'-O-acetyl- α -L-
2 rhamnopyranosyloxy)benzyl isothiocyanate or a derivative thereof.

3 23. The method of claim 21, wherein said isothiocyanate is
4 sulforaphane.

5 24. The method of claim 21, wherein said *Helicobacter* is
6 *Helicobacter pylori*.

7 25. The method of claim 21, wherein said agent is administered as
8 a composition.

9 26. The method of claim 25, wherein said composition is a food, a
10 food supplement, dietary supplement or a food additive.

11 27. The method of claim 26, wherein said composition comprises a
12 glucosinolate or a derivative thereof.

13 28. The method of claim 25, wherein said composition is a
14 pharmaceutical composition.

15 29. The method of claim 21, further comprising administering an
16 antibiotic to said *Helicobacter*.

17 30. The method of claim 29, wherein said antibiotic is selected from
18 the group consisting of amoxycillin and clarithromycin.

19 31. A method of identifying an agent that modulates the growth of
20 *Helicobacter* comprising

21 a. treating *Helicobacter* with said agent and assaying for
22 growth of said *Helicobacter*;

23 b. treating said *Helicobacter* with a known modulator of
24 *Helicobacter* growth and assaying for growth of said *Helicobacter*,
25 wherein said known modulator of *Helicobacter* growth is selected from
26 the group consisting of an isothiocyanate, a glucosinolate and a
27 derivative thereof; and

1 c. comparing the levels of *Helicobacter* growth in (a) and (b)
2 to determine if said agent modulates said growth of *Helicobacter*.

3 32. The method of claim 31, wherein said isothiocyanate is
4 sulforaphane, sulforaphene, erysolin, erucin, iberin, alyssin, berteroin,
5 iberverin, cheirolin, 5-methylsulfinylpentyl isothiocyanate, 6-
6 methylsulfinylhexyl isothiocyanate, 7-methylsulfinylheptyl isothiocyanate, 8-
7 methylsulfinyloctyl isothiocyanate, 9-methylsulfinylnonyl isothiocyanate, 10-
8 methylsulfinyldecyl isothiocyanate, phenylethyl isothiocyanate, 4-(α -L-
9 rhamnopyranosyloxy)benzyl isothiocyanate, 3-(α -L-
10 rhamnopyranosyloxy)benzyl isothiocyanate, 2-(α -L-
11 rhamnopyranosyloxy)benzyl isothiocyanate, 4-(4'-O-acetyl- α -L-
12 rhamnopyranosyloxy)benzyl isothiocyanate or a derivative thereof.

13 33. The method of claim 32, wherein said isothiocyanate is
14 sulforaphane.

15 34. The method of claim 31, wherein (b) is performed on said
16 *Helicobacter* in (a) after said agent in (a) is removed.

17 35. The method of claim 31, wherein said *Helicobacter* is
18 *Helicobacter pylori*.

19 36. The method of claim 31, wherein said *Helicobacter* occurs in or
20 around animal cells.

21 37. The method of claim 31, wherein said method is performed *in*
22 *vivo*.

23 38. The method of claim 31, wherein said method is performed *in*
24 *vitro*.